

reference for a pump that could reduce the vacuum in a sealable chamber below 10 TORR. In truth, the Wennerstrum disclosure specifically suggests that the vacuum in the Wennerstrum invention should be kept between 10 and 35 TORR. Consequently, insofar as there is any teaching or suggestion in the Wennerstrum patent regarding a pump, that teaching says the pump should be incapable of reducing the vacuum below 10 TORR, since the vacuum below 10 TORR is an undesirable result.

Undeterred by the lack of any factual basis in the Wennerstrum patent teaching a pump capable of evacuating a chamber below 10 TORR, the Examiner then goes on to conclude: "It would have been obvious to operate the sealable chamber (10) less than 10 TORR in order to obtain an optimal result." This is exactly contrary to the teaching of Wennerstrum, which says that the vacuum should not be evacuated below 10 TORR. Consequently, the Examiner is contradicting the explicit teaching of the Wennerstrum patent to conclude that somehow the Wennerstrum patent, which specifically requires a vacuum of no more than 10 TORR, teaches an "optimal result" by a vacuum less than 10 TORR. This is both prohibited hindsight reconstruction where the Examiner uses the teaching of the Applicant's own invention to find the Applicant's invention obvious. Consequently, the Applicant must respectfully traverse any conclusion of obviousness arising out of the Wennerstrum patent for Claim 23.

#### Claim Rejections 35 U.S.C. § 103

Claims 27-28, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerstrum et al. (U. S. Patent #4,882,851) in view of Dhaemers (U. S. Patent #5,546,678).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claims 29, 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerstrum et al. (U.S. Patent #4,882,851) in view of Dhaemers (U.S. Patent #5,546,678) as applied to Claims 5, 28 above, and further in view of Hunter et al. (U.S. Patent #6,085,443).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerstrum et al. (U. S. Patent #4,882,851) in view of Dhaemers (U. S. Patent #5,546,678) as applied to Claims 5, 28 above, and further in view of Hunter et al. (U.S. Patent #6,085,443).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerstrum et al. (U. S. Patent #4,882,851) in view Sano et al. (U.S. Patent #4,107,049).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claims 3-5, 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerstrum et al. (U. S. Patent #4,882,851) in view Sano et al. (U.S. Patent #4,107,049) as applied to Claim 1 above and further in view of Dhaemers (U.S. Patent #5,546,678).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claims 6, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerstrum et al. (U. S. Patent #4,882,851) in view of Sano et al. (U.S. Patent #4,107,049) and Dhaemers (U.S.

Patent #5,546,678 as applied to Claim 5 above and further in view of Hunter et al. (U.S. Patent #6,085,443).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claims 10, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wennerstrum et al. (U. S. Patent #4,882,851) in view of Sano et al. (U.S. Patent #4,107,049) and Dhaemers (U.S. Patent #5,546,678 as applied to Claim 5 above and further in view of Davis et al. (U.S. Patent #6,410,889).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claims 1 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent #4,107,049) in view of Wennerstrum et al. (U.S. Patent #4,882,851).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claims 3-5, 7-8 and 27-28, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U. S. Patent #4,107,049) in view of Wennerstrum et al. (U.S. Patent #4,882,851) as applied to Claims 1 and 23 above and further in view of Dhaemers (U.S. Patent #5,546,678.).

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

Claims 6, 9, 29, 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U. S. Patent #4,107,049) in view of Wennerstrum et al. (U.S. Patent #4,882,851) and Dhaemers (U.S. Patent #5,546,678.) as applied to Claims 5, 28 above and further in view of Hunter et al. (U.S. Patent #6,085,443) .

The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

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The grounds for rejection are word-for-word the same as in prior Office Actions. Applicant incorporates by reference herein the response to the rejections made in the Request for Continued Examination filed on September 8, 2006 and the response to the Examiner's Office Action filed on March 6, 2006. Applicant will not repeat those arguments again.

#### Objective Evidence of Nonobviousness

It has long been accepted law that evidence of secondary considerations may be evidence of nonobviousness. Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459 (1966). These include such matters as commercial success, long felt but unmet needs, acceptance in the field, and so on. As objective evidence of nonobviousness, Applicant attaches and incorporates by reference herein three declarations and accompanying exhibits.

The first Declaration is from Jan T. Womble, a Field Engineer with the North Carolina Department of Transportation. This Affidavit establishes that an important part of the processing in asphalt paving is to obtain the density of the asphalt. The asphalt specimens must be dry to receive density. The Declaration establishes that: "We have retested hundreds of asphalt specimens that

were fan dried and, with the introduction of CoreDry, it has become apparent that fan drying is not very effective in completing drying the specimens as required in the specifications. CoreDry is by far the most effective way to completely dry asphalt specimens” (Womble Declaration, paragraph 2). This Declaration goes on to establish that: “The CoreDry vacuum dryer constitutes an important advance in asphalt testing and that: “... with the CoreDry vacuum dryer it is possible to obtain a dry sample of asphalt and a density test in less than 15 minutes” (Womble Declaration, paragraph 3). Finally, the Womble Declaration states: “The CoreDry vacuum dryer has met a long-standing need in the field to be able to quickly and effectively dry asphalt samples to produce density tests and, that before the CoreDry vacuum dryer was introduced, there was no other effective means to dry an asphalt sample in the same or similar amount of time.”

A second Declaration is from Christopher Bacchi, Laboratory Director for Tramat Materials Testing in Raleigh. Mr. Bacchi’s Declaration establishes that before the CoreDry testing for density took one full day (Bacchi Declaration, paragraph 2). The Bacchi Declaration goes on to establish that the CoreDry has reduced the time to dry an asphalt sample up to 24 hours to less than one hour and that the CoreDry “... constitutes and (sic) important advance in asphalt testing.” (Bacchi Declaration, paragraph 4).

Finally, an Declaration is submitted from Ali Regimand, a co-inventor of the invention now under consideration in application with Serial #10/714,471. This Declaration establishes that the asphalt drying apparatus encompassed in the ‘471 application has been marketed as “CoreDry” since 2004. It has had considerable success in the market place, in part, because it is currently the only vacuum dryer for porous materials like asphalt currently being sold. Consequently, the commercial success cannot be due to extraneous factors such as price advantage or successful marketing since it is a unique product that has met a long-felt and unmet need. This Declaration goes on to establish, through Exhibit A, that an ASTM standard has been established for vacuum drying asphalt samples. The standard was developed specifically for CoreDry because there is no other vacuum dryer process available for asphalt drying. Because an ASTM standard has been established especially for the CoreDry apparatus and process, represented by the current patent application Serial #10/714,471, this is now the standard for vacuum drying of porous materials such

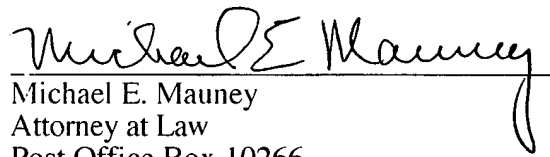
as asphalt. Also attached to the Regimand Declaration are documents showing procedures established in Colorado and Pennsylvania and a test report from Colorado regarding the Applicant's invention, These documents independently validate the CoreDry technology and the advance in art represented by the CoreDry device and the invention described and claimed in application #10/714,471. Consequently, the invention described and claimed in application #10/714,471 is not simply an incremental advance in the art, it is in fact now the standard in the art for vacuum drying of porous samples.

Consequently, the above identified Declarations and accompanying test results and ASTM standard plainly establish secondary indevia of nonobviousness. The CoreDry has been a commercial success and met a long-felt but unmet need for quick and reliable drying of porous samples, such as asphalt, for further testing, and it has now been accepted as the standard in the industry for vacuum drying of porous samples.

#### Conclusion

The Applicant has fully responded to all arguments and rejections of the Examiner under 102 or 103. The Applicant has provided objective evidence of nonobviousness for all claims rejected on the basis of obviousness. Consequently, it is believed that all claims are now in a condition for allowance and the same is respectfully requested.

This the 25 day of Sept., 2006.

  
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CERTIFICATE OF SERVICE

I, Michael E. Mauney, do hereby certify that a copy of the foregoing Response After Final Submission in:

In Re Application: Tianqing He et al.

Serial Number: 10/714,471

For: DEVICE AND METHODS FOR RAPID DRYING OF POROUS MATERIALS

Filed: 11/15/03

has this day been duly served upon:

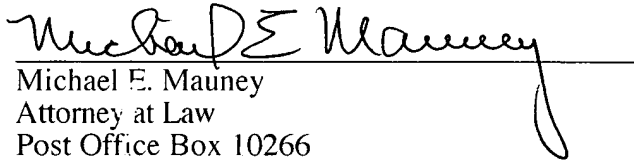
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Said service was made in the following manner:

( ) By handing such copy to the aforementioned attorney, or by leaving said copy at the above mentioned attorney's office with a partner or employee of his office.

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This the 25 day of Sept, 2006.

  
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